UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,586	09/18/2003	Terry L. Gilton	MICRON.272A	9170

20995 7590 02/09/2006

KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER	
NGUYEN, SANG H	

ART UNIT	PAPER NUMBER
2877	

DATE MAILED: 02/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/666,586	GILTON, TERRY L.	
	Examiner	Art Unit	
	Sang Nguyen	2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 November 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Applicant's response to amendment on 11/28/05 has been entered. It is noted that the application contains claims 1-24 and claims 25-51 have been canceled by the amendment on 11/28/05.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-2, 7-10, 14-21, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scheer et al (U.S. Patent No. 5,194,297) in view of Ballas et al (U.S. Patent No. 4,812,396).

Regarding claim 1; Scheer et al discloses a method for detecting a particle on a substrate, comprising:

A liquid monomer (col.3 lines 37-44) of an atomizer (11 of figure 1) is contacted to the substrate (19d of figure 1) and a particle counter (col.5 lines 17-20) considered to be a laser source (21 of figure 1) and a detector array (25 of figure 1) for detecting the particle (13 of figure 1) on the substrate (19d of figure 1 and col.4 lines 10-25).

Scheer et al teaches all of features of claimed invention except for the particle catalyzes the polymerization of the monomer. However, Ballas et al teaches that it is known in the art to provide method for detecting enzymatic activity using particle

(abstract) comprises the particle catalyzes the polymerization of the monomer (col.5 lines 15-32). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine a method for detecting a particle on a substrate of Scheer et al with the particle catalyzes the polymerization of the monomer as taught by Ballas et al for the purpose of detecting accurately enzyme on the achieving optimum sensitivity substrate with high speed.

Regarding claim 2; Scheer et al teaches of the particle counter (25 of figure 1) for detecting a property selected from the group consisting of number of particles, sizes of particles, position of the particles and combination thereof (figures 3A-3C).

Regarding claims 7-8; Scheer et al teaches all of features of claimed invention except for the composition of the particle is identified by the polymerization rate of the monomer. However, Ballas et al teaches that it is known in the art to provide the composition of the particle is identified by the polymerization rate of the monomer 9col.5 lines 5-32 and table I and II). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine a method for detecting a particle on a substrate of Scheer et al with the composition of the particle is identified by the polymerization rate of the monomer as taught by Ballas et al for the purpose of detecting accurately enzyme on the achieving optimum sensitivity substrate with high speed.

Regarding claims 9-10; Scheer et al teaches all of features of claimed invention except for the monomer is polymerized by a plurality of particles types for repeating contacting and detecting. However, Ballas et al teaches that it is known in the art to

provide the monomer is polymerized by a plurality of particles types (col. 5 lines 5-8 and table I and II). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine a method for detecting a particle on a substrate of Scheer et al with the monomer is polymerized by a plurality of particles types as taught by Ballas et al for the purpose of visual detecting particle aggregation because direct agglutination is easier to direct detect than agglutination inhibition.

Regarding claims 14-15; Scheer et al teaches of the particle (913 of figure 10) is a metal which is Al 9col.3 lines 55-58). Sheer et al teaches all of features of claimed invention except for the metal is copper [Cu]. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine a method for detecting a particle on a substrate of Scheer et al with the metal is copper, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Regarding claims 16-17 and 24; Scheer et al the substrate (51 of figure 3A) is silicon or single crystal silicon wafer (51 of figure 3A-3C) with irradiated by electromagnetic radiation or laser source.

Regarding claim 18; Scheer et al teaches of the monomer is in a vapor phase (11, 12, 16, 18 21 of figure 1).

Regarding claims 19-20; Scheer et al teaches all of features of claimed invention except for the monomer is an alkene, wherein the alkene is selected from group consisting of styrene, methyl arcrylate, ethyl acrylate, methyl methacrylate, and

acrylonitrile (col.5 lines 25-32). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine a method for detecting a particle on a substrate of Scheer et al with the monomer is an alkene, wherein the alkene is selected from group consisting of styrene, methyl arcrylate, ethyl acrylate, methyl methacrylate, and acrylonitrile as taught by Ballas et al for the purpose of adding material at a controlled rate to increase the size of the particles in the seed emulsion.

Regarding claim 21; Sheer et al teaches all of features of claimed invention except for the monomer is selected from the group consisting of aniline and thiohene. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine a method for detecting a particle on a substrate of Scheer et al with the monomer is selected from the group consisting of aniline and thiohene, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re leshin, 125 USPQ 416.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scheer et al in view of Ballas et al as applied to claim 1 above, and further in view of Asano (JP 2003031542).

Regarding claim 3; Scheer et al in view of Ballas et al discloses all of features of claimed invention as indicate claim 1 except for the particle counter for detecting particles on both sides of the substrate with unmounting the substrate. However, Asano teaches that it is known in the art to provide (abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine a

method for detecting a particle on a substrate of Scheer et al with the particle counter for detecting particles on both sides of the substrate with unmounting the substrate as taught by Asano for the purpose of detecting accurately particles on the wafer with high speed during wafer cleaning.

Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scheer et al in view of Ballas et al as applied to claim 1 above, and further in view of Tullis et al (U.S. Patent No. 5,144,524).

Regarding claims 4-6; Scheer et al in view of Ballas et al discloses all of features of claimed invention as indicate claim 1 except for an optical scanner is a laser scanner and the particle counter for detecting a property selected from the group consisting of absorbance, fluorescence, reflectance, refractive index, and polarization. However, Tullis et al teaches that it is known in the art to provide an optical scanner is a laser scanner 955, 57 of figure 100 and the particle counter considered to be a detector 964 of figure 100 for detecting a property selected from the group consisting of absorbance, fluorescence, reflectance, refractive index, and polarization 9col.7 lines 33-68 and table I and II). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine a method for detecting a particle on a substrate of Scheer et al with an optical scanner is a laser scanner and the particle counter for detecting a property selected from the group consisting of absorbance, fluorescence, reflectance, refractive index, and polarization as taught by Tullis et al for the purpose of detecting and analyzing particles on the silicon wafers with parameters

as sensitivity, counting accuracy, uniformity, dynamic range, spatial resolution and stability.

Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scheer et al in view of Ballas et al as applied to claim 1 above, and further in view of Yoshimural (U.S. Patent No. 5,194,548).

Regarding claims 11-13; Scheer et al in view of Ballas et al discloses all of features of claimed invention as indicate claim 1 except for a plurality of monomers contacted the substrate in simultaneously or sequentially. However, Yoshimura teaches that it is known in the art to provide a plurality of monomers (figures 15A-15F) contacted the substrate (10 of figures 15A-15F) in simultaneously or sequentially (col.7 lines 45-63 and col.11 lines 23-45). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine a method for detecting a particle on a substrate of Scheer et al with a plurality of monomers contacted the substrate in simultaneously or sequentially as taught by Yoshimura for the purpose of improving of the nonlinear optical characteristic materials during forming molecular beam deposition or molecular beam epitaxy.

Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scheer et al in view of Ballas et al as applied to claim 1 above, and further in view of Hahn (U.S. Patent No. 4,170663).

Regarding claims 22-23; Scheer et al in view of Ballas et al discloses all of features of claimed invention except for further an initiator is benzyl bromide. However, Hahn et al teaches a free radical initiator is benzyl bromide (col.7 lines 10-20). It would

have been obvious to one having ordinary skill in the art at the time the invention was made to combine a method for detecting a particle on a substrate of Scheer et al with an initiator is benzyl bromide as taught by Hahn et al for the purpose of reducing low gloss and substantial resistance to burnishing during radiation curable organic material.

Response to Arguments

Applicant's arguments filed 11/28/05 have been fully considered but they are not persuasive. Applicant's argued, pages 4-9, that Schemer et al and Balas et al do not teach or suggest "detecting a particle on a substrate" and "a particle that catalyzes the polymerization of a monomer", and "the rejection fails to establish *prima facie* obviousness and not combine with Schemer et al and Balas et al" as recited in claim 1.

This argument is not persuasive.

In response to applicant's argument, pages 4, that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to applicant's argument that there is no suggestion to combine the

references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, both of Scheer et and Ballas et al have the same function or result for the purpose of detecting or measuring a particle on a surface of a substrate by detector device . Also, the applicant argues that the Scheer et al and Ballas et al do not teach or suggest "detecting a particle on a substrate" and "a particle that catalyzes the polymerization of a monomer". As the features "detecting a particle on a substrate" and "a particle that catalyzes the polymerization of a monomer" stated in previous Office action at page 3 on 08/24/05.

In response to applicant's arguments, the recitation "the substrate is used in the fabrication of an integrated device" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Also, In response to applicant's argument that "the substrate is used in the fabrication of an integrated device", a recitation of the intended use of the claimed

invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Applicant's argued, pages 7-9, that the Scheer et al, Ballas et al, Asano, and Tullis et al, Yoshimural and/or Hahn references fails to establish *prima facie* obviousness" as recited in claims 2-24.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang Nguyen whose telephone number is (571) 272-2425. The examiner can normally be reached on 9:30 am to 7:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SN

Examiner Sang Nguyen/SN

Feb. 1, 2006

for

Gregory J. Toatley, Jr.
Supervisory Patent Examiner
Art Unit 2877
Technology Center 2800

LAYLA G. LAUCHMAN
PRIMARY EXAMINER